

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Original) A method of altering a property of a cell towards a property of one or more desired cell types comprising providing isolated RNA comprising a RNA sequence extractable from cells comprising said desired cell type(s) to a population of cells under conditions whereby the alteration of the cell property is achieved.
2. (Original) A method according to claim 1, wherein said isolated RNA is provided to a cell population in a patient.
3. (Currently Amended) A method according to claim 1 ~~or claim 2~~, wherein said property is phenotypic.
4. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein said property is a cell function.
5. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein alteration of said property involves a genetic transformation so that said population of cells acquires an altered, inherited genotype.
6. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the alteration of the cell property is the differentiation of a stem cell to an adult specialized cell.
7. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the alteration of the cell property is the reverse differentiation of an adult ~~specialised~~ specialized cell to a stem cell.
8. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the alteration of the cell property is the differentiation of a ~~specialised~~ specialized adult cell to an adult cell of a different specialty.

9. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the alteration of the cell property is a change in immunological profile.

10. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 2, wherein said method improves stem cell mediated repair in [[a]]the patient.

11. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 2, wherein said method induces stem cell ~~mobilisation~~mobilization, migration, integration, proliferation and/or differentiation in [[a]]the patient.

12. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 2, wherein said method effects repair of diseased cells, alters the genetic constitution of cells, induces specific cell types and/or cell fates, changes the immunological profiles of cells, and/or induces particular desired immune functions or properties.

13. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 2, which additionally comprises the step of providing stem cells to the patient.

14. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 13, wherein said step of providing stem cells is sequential to, simultaneous with, or separate to said step of providing the isolated RNA.

15. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the isolated RNA comprises a RNA sequence that is extractable from cells of a different developmental stage than the developmental stage of the cells to be treated.

16. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the isolated RNA comprises a RNA sequence that is extractable from cells of a more active cell generative stage than that of the cells to be treated.

17. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the isolated RNA comprises a RNA sequence that is extractable from cells from an individual who shows immunity or resistance to a disease or condition.

18. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein the isolated RNA comprises a RNA sequence extractable from foetal cells, neonatal cells, juvenile cells or embryonic stem cells.

19. (Original) A method of inducing *in vivo* or *in vitro* totipotent or pluripotent stem cells of a stem cell line or derived from a tissue of an animal or plant to differentiate into one or more desired cell types, which comprises providing isolated RNA comprising RNA extractable from tissue or cells comprising said desired cell type(s) to a cell culture of said stem cells under conditions whereby the desired differentiation of said stem cells is achieved.

20. (Currently Amended) A method of inducing *in vivo* or *in vitro* totipotent or pluripotent stem cells of a stem cell line or derived from a tissue of an animal or plant to ~~mobilise~~ mobilize, migrate, integrate, proliferate and/or differentiate, which comprises providing isolated RNA comprising RNA extractable from tissue or cells comprising said desired cell type(s) to a cell culture of said stem cells under conditions whereby the desired differentiation of said stem cells is achieved.

21. (Currently Amended) A method ~~as claimed in any one of the preceding claims~~ according to claim 1, wherein said cells are stem cells.

22. (Currently Amended) A method according to claim [[20]]19, wherein said stem cells are selected from adult animal stem cells or an adult stem cell line; or embryonic stem cells or a stem cell line derived from such cells.

23. (Currently Amended) A method ~~as claimed in~~ according to claim 20 ~~or claim 21~~, wherein said stem cells are selected from adult animal stem cells or an adult stem cell line; or embryonic stem cells or a stem cell line derived from such cells.

24. (Currently Amended) A method as claimed in claim [[21]]22 wherein said adult stem cells are bone marrow stromal cells, haematopoietic stem cells or neuronal stem cells or a corresponding derived stem cell line.

25. (Currently Amended) A method ~~as claimed in any one of the preceding claims according to claim 1~~, wherein said cells are human stem cells or a human stem cell line.

26. (Currently Amended) A method ~~as claimed in any one of the preceding claims according to claim 25~~, wherein said cells are caused to differentiate into one or more stable terminal cell types.

27. (Currently Amended) A method ~~as claimed in any one of the preceding claims according to claim 26~~, wherein the cells are genetically modified prior to differentiation.

28. (Currently Amended) A method ~~as claimed in any one of the preceding claims according to claim 25~~, wherein the cells are derived from the intended recipient of said desired cells.

29. (Currently Amended) A method ~~as claimed in any one of the preceding claims according to claim 1~~, wherein said RNA comprises RNA extracted from tissue or cells of an individual different from the source of the cells to be treated, said extracted RNA being derived from a donor having an immunological profile compatible with the intended recipient of the desired cells.

30. (Currently Amended) A method according to ~~any one of the preceding claims~~ claim 1, wherein a RNA extract is provided for uptake by the cells which is a whole tissue or whole cell RNA extract.

31. (Currently Amended) A method ~~as claimed in any one of the preceding claims~~ according to claim 1, wherein RNA-extractable from one or more types of brain cell or brain cell line is provided for uptake by cells.

32. (Currently Amended) A method ~~as claimed in any one of the preceding claims~~ according to claim 1, wherein the cells are bone marrow stromal stem cells and the isolated RNA provided comprises RNA extractable from one or more types of brain cell or skeletal muscle or a corresponding derived cell line of either.

33-36. (Cancelled)

37. (Original) A method of reversing in vitro the differentiation of differentiated cells of a cell line or obtained from the tissue of an animal or a plant to produce a desired type or types of totipotent or pluripotent stem cell(s) or stem cell line(s), which comprises providing isolated RNA comprising RNA extractable from the desired type(s) of stem cell or stem cell line to a cell culture of said differentiated cells whereby the desired reversal of differentiation of the differentiated cells into said type(s) of stem cell or stem cell line type(s) is achieved.

38. (Currently Amended) A method according to claim [[36]]37, wherein the stem cell is as defined in any one of claims 20 to 24claim 22.

39. (Currently Amended) A method according to claim [[36 or ]]37, wherein the differentiated cells are selected from skin cells, bone marrow cells and haematopoietic cells or a cell line derived from such cells.

40. (Currently Amended) A method according to claim [[36 or ]]37, wherein the differentiated cells are fibroblasts or a fibroblast cell line and the RNA is extractable from bone marrow stem cells or neuronal stem cells.

41. (Currently Amended) A method according to claim [[39]]37, wherein the isolated RNA provided comprises RNA extractable from bone marrow stromal stem cells, neuronal stem cells or a stem cell line derived from either.

42. (Currently Amended) An *in vitro* method of producing differentiated cells, which comprises:

- i) performing [[a]]the method according to any one of claims 36 to 40claim 37 to produce stem cells or a stem cell line from differentiated cells;
- ii) performing [[a]]the method according to any one of claims 1 to 31claim 19 on the stem cells or stem cell line to produce differentiated cells.

43. (Cancelled)

44. (Currently Amended) Cells obtained by [[a]]the method according to any one of claimsclaim 1 to 31, or 36 to 42.

45. (Cancelled)

46. (Currently Amended) A method of screening for a RNA sequence capable of conferring a desired property from one cell type to another, the method comprising the steps of

- a) extracting RNA from cells comprising a desired cell type;
- b) separating the extracted RNA into different fractions;
- c) providing a fraction to a test cell;
- d) ~~analysing~~ analyzing the test cells for an altered property possessed by the desired cell type from which the RNA was extracted;

wherein a fraction that confers the altered property onto the test cell is identified as comprising a RNA sequence capable of conferring the desired property.

47. (New) The method according to claim 23 wherein said adult stem cells are bone marrow stromal cells, haematopoietic stem cells or neuronal stem cells or a corresponding derived stem cell line.

48. (New) Cells obtained by the method according to claim 19.

49. (New) Cells obtained by the method according to claim 37.

50. (New) Cells obtained by the method according to claim 42.

51. (New) An *in vitro* method of producing differentiated cells, which comprises:

- i) performing the method according to claim 37 to produce stem cells or a stem cell line from differentiated cells;
- ii) performing the method according to claim 19 on the stem cells or stem cell line to produce differentiated cells; and
- iii) introducing a genetic modification into the stem cells.